

## REMARKS

In the Office Action, Claim 1 is rejected under 35 U.S.C. § 102; and Claims 1-11 are rejected under 35 U.S.C. § 103. Claims 1 and 7 have been amended, and claim 4 has been canceled without prejudice or disclaimer. No new material has been added. Applicants believe that the rejections have been overcome in view of the amendments and for at least the reasons set forth below.

In the Office Action, Claim 1 has been rejected as allegedly anticipated in view U.S. Patent No. 5,534,366 and (“Hwang”). As previously provided, Claim 1 has been amended. As amended, claim 1 incorporates, in part, the limitation from claim 4. Claim 4 has been canceled without prejudice or disclaimer. Therefore, the anticipation rejection of claim 1 should be withdrawn.

Claim 2 was rejected under 35 U.S.C. §103(a) as being unpatentable over Hwang in view of U.S. Patent No. 6,492,058 to Watanabe et al. (“Watanabe”). At the outset, Applicants question whether one skilled in the art would combine Hwang and Watanabe in the first place as they effectively teach away from each other. Indeed, Hwang is directed to a modular battery pack where Watanabe relates to a non-modular battery pack.

In Hwang, the modular battery pack allows for the replacement of the battery cells without having to replace the circuitry, thus resulting in a more cost effective power system for a portable electrical or electronic device. See Hwang, Abstract. The purpose of Hwang is not to provide new battery circuits, but rather to modularize the functions of existing battery packs, and battery packs yet to come. In this way, the consumer receives an economic benefit by being able to re-use necessary circuitry. When the battery cell or cells of the battery cell cartridge have reached the end of their useful life, only that portion of the modular battery pack need be replaced. The consumer does not need to pay for the cost of new battery circuitry simply because the battery cell(s) expired. Thus, the initial cost of buying a modular battery pack is severally higher where, the replacement cost of new battery cells is significantly lower than the cost of a new battery pack. See, Hwang, Col. 6, ln. 45-60.

Why then would one skilled in the art be motivated to apply the teachings of a non-modular battery pack in Watanabe with the modular battery pack in Hwang. In Watanabe, the protection circuit and rechargeable cell are held in a case. See Watanabe, Abstract. The case is

manufactured in a manner that prevents the case from opening, thus, enclosing together the rechargeable cell and protection circuit in one unit. The ultra-sonically welded case allows strong connection of case pieces without using connecting materials, and fixes the case together in a manner that will not separate at the opening. This allegedly enhances the quality battery pack that can be inexpensively produced in quantity. Further, the case may also be a heat-shrink film structure encasing a connection of rechargeable cell, one-package unit, and insulating holder, rather than a formed plastic or metallic case. See, Watanabe, Col. 4, ln. 21-48. Thus, one skilled in the art would not be motivated to combine the non-modular, low cost battery in Watanabe with the modular, high cost battery in Hwang. Therefore, the obviousness rejection should be withdrawn based on at least this reason.

Even assuming that Hwang and Watanabe are combinable, Applicants believe that the combined teachings of Hwang and Watanabe are distinguishable from the subject matter in claim 2. Claim 2 depends from claim 1, and for substantially the same reasons as discussed above with respect to claim 1, Hwang is distinguishable from claim 1.

Further, the Patent Office cannot rely solely on Watanabe to remedy the deficiencies of Hwang. Indeed, the Patent Office merely relies on Watanabe for its alleged teaching regarding hermetical sealing. Therefore, Applicants respectfully submit that Hwang and Watanabe, even if combinable, fail to render obvious claim 2.

Accordingly, Applicants respectfully request that the obviousness rejection of claim 2 be withdrawn.

In the Office Action, Claim 3 is rejected as allegedly obvious over Hwang in view of Watanabe as applied to claim 2, and further in view of U.S. Patent No. 4,659,636 to Suzuki et al. (“Suzuki”). Applicants respectfully submit that the patentability of claim 1 renders moot the obviousness rejection of claim 3. At a minimum, Hwang fails to teach or suggest the features of claim 3 in combination with the features of claim 1 where Watanabe cannot be relied on solely to remedy the deficiencies of same as discussed above. Indeed, Hwang and Watanabe effectively teach away from the combination thereof as previously discussed. Further, the Patent Office cannot rely solely on Suzuki to remedy the deficiencies of Hwang and Watanabe where Suzuki is merely relied on for its alleged teaching regarding a structure that is formed by fitting together an open top lower package and an upper package having a groove corresponding to an opening of

the lower package by press fitting. Therefore, Applicants believe that Hwang, Watanabe and Suzuki even if combinable fail to render obvious Claim 3, and thus, Applicants respectfully request that this rejection be withdrawn.

Claims 1 and 4 were rejected under 35 U.S.C. §103(a) as being unpatentable over Watanabe in view of Hwang. Applicants believe that this rejection is improper.

At the outset, claim 4 has been cancelled without prejudice or disclaimer, and thus, the obviousness rejection with respect to same should be rendered moot. With respect to claim 1, Applicants believe that this rejection should be withdrawn too. Again, Applicants question whether Watanabe and Hwang can even be combined in the first place where Watanabe relates to a low cost, non-modular battery pack and where Hwang relates to a high cost, modular battery pack.

Even assuming that Watanabe and Hwang can be properly combined, Applicants believe that the cited references are distinguishable from the claimed invention. Claim 1 recites a battery block that houses one or more batteries in a battery package; a circuit block housing a circuit in a circuit package, the circuit having a measurement function associated with at least one of a use condition of the batteries, a measurement function associated with performance of the batteries, and a protection function to protect the batteries; and an outer case capable of fitting in and housing the battery block and the circuit block. The battery block and the circuit block can be independently removed and replaced from the outer case, wherein an inside dimension of the outer case substantially equals a total outside dimension of the battery block and the circuit block, and wherein the battery block has a connection terminal on a side facing the circuit block and the circuit block has a connection terminal on a side facing the battery block and a part of the connection terminal which is exposed out of the battery package and circuit package includes a blade spring in a tranche shape.

With this configuration, the battery block and the circuit block can be tightly fit inside of the outer case and pushed together. This provides a nested structure where movement of the battery block and circuit block within the outer case can be effectively eliminated or at least greatly minimized. Thus, the outer case contains the battery block and circuit block, and pushes the battery block and circuit block together. See, Specification, page 5, lines 22-25; and FIG. 1. This is facilitated through the use of a blade spring in a tranche shape associated with the part of

the connection terminal which is exposed out of the battery package and circuit package as further supported in the specification on page 8, at lines 25-27, page 9, at lines 15-18, and Figure 3.

Clearly, the primary Watanabe reference is distinguishable from claim 1. At a minimum, nowhere does Watanabe provide a battery pack where the circuit block and battery block are housed within a common housing in a nested structure that is facilitated by the use of blade springs in a tranche shape that are part of the connection terminal that is exposed out of the battery package and circuit package as required by the claimed invention and discussed above. Further, Hwang cannot remedy this deficiency where, indeed, Hwang provide a modular battery pack with the battery cartridge 12 and the circuit cartridge 14 housed in separately divided enclosures and on top of one another. See, Hwang, column 2 at line 58 to column 3 at line 2; and FIG. 1.

Based on at least these reasons, Applicants believe that Watanabe and Hwang fail to disclose or suggest the subject matter in claims 1 and 4. Therefore, Applicants respectfully submit that Watanabe and Hwang, even if combinable, fail to render obvious claims 1 and 4, and thus Applicants respectfully request that the obviousness rejection be withdrawn.

Claims 5 and 6 were rejected under 35 U.S.C. §103(a) as being unpatentable over Watanabe in view of Hwang as applied to claim 4, in further view of U.S. Patent No. 6,387,567 to Noh (“Noh”). Applicants respectfully submit that the patentability of claim 1 as detailed above, renders moot the obviousness rejection of claims 5 and 6 for substantially the same reasons as above. At a minimum, Watanabe and Hwang fail to teach or suggest the features of claims 5 and 6 in combination with the features of claim 1 where Applicants question the combinability of Watanabe and Hwang based on at least the reasons as discussed above. Further, Noh cannot be relied on solely to remedy the deficiencies of same.

Accordingly, Applicants respectfully request that the obviousness rejection of claims 5 and 6 be withdrawn.

In the Office Action, Claims 7 and 8 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,929,600 to Hasegawa (“Hasegawa”) in view of U.S. Patent No. 5,818,198 to Mito et al. (“Mito”). Of these claims, Claim 7 is the sole independent claim. Claim 7 recites a battery pack including an outer case for housing one or more batteries

and a circuit having at least one of a measurement function associated with a use condition of the batteries, a measurement function associated with performance of the batteries and a protection function to protect the batteries, wherein a tab at both ends is connected to a cathode and an anode of the battery and a central tab is connected to a midpoint lead, and wherein the midpoint lead is adapted to measure a potential between two batteries, and wherein inside of the outer case is completely separated into two chambers by a partition wall and the batteries and the circuit are separately housed in the two chambers, respectively.

Applicants believe that the cited art even if properly combinable is distinguishable from claims 7 and 8. At a minimum, nowhere does the cited art disclose or suggest a battery pack wherein the midpoint lead is adapted to measure a potential between the two batteries as required by the claimed invention and further supported in the specification on page 13 at lines 1-2. Therefore, Applicants believe that the cited references even if combinable fail to render obvious claims 7 and 8.

Accordingly, Applicants respectfully request that the obviousness rejection with respect to claims 7-8 be withdrawn.

In the Office Action, Claims 9-11 are rejected under 35 U.S.C. § 103 as allegedly unpatentable over Hasegawa and Mito in further view of Hwang. Each of Claims 9-11 depends from Claim 7 either directly or indirectly. Thus, Hasegawa and Mito on their own are distinguishable from Claims 9-11 at least for substantially the same reasons as discussed above with respect to Claim 7 as discussed above.

Further, Applicants believe that Hwang cannot be relied on solely to remedy the deficiencies of Hasegawa and Mito. At the outset, Applicants question whether one skilled in the art would combine Hasegawa, Mito and Hwang in the first place. Even assuming that these references can be properly combined, Hwang is merely relied on for its alleged teaching regarding fixed terminals that electrically interconnect the battery and circuit through a physical barrier. Therefore, even if combinable, Hasegawa, Mito and Hwang fail to disclose or suggest the claimed invention and thus, fail to render the claimed invention obvious based on at least these reasons.

Accordingly, Applicants respectfully request that the obviousness rejection with respect to claims 9-11 be withdrawn.

For the foregoing reasons, Applicants respectfully submit that the present application is in condition for allowance and earnestly solicit reconsideration of same.

Respectfully submitted,

BELL, BOYD & LLOYD LLC

BY 

---

Thomas C. Basso  
Reg. No. 46,541  
P.O. Box 1135  
Chicago, Illinois 60690-1135  
Phone: (312) 807-4310

Dated: April 14, 2005